

## New species, chromosome cytology and notes on the southern African Iridaceae–Irideae: *Moraea*, *Roggeveldia* and *Homeria*

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A new species for each of *Moraea* (120 species), *Homeria* (32 species) and *Roggeveldia* (2 species), African genera of Iridaceae–Irideae subtribe Homeriinae, is described. *Moraea vlokii* from the interior Swartberg Mountains of the southern Cape, is most closely related to the widespread winter rainfall area species *M. gawleri*, from which it differs by its short, crestless style arms, obtuse subequal tepals and solitary leaf. In *Roggeveldia*, until now monotypic, the new *R. montana* is a plant of low stature with a single long, terete and slender leaf, occurring locally in the Kamiesberg (central Namaqualand) and Swartberg Mountains. Although its flowers correspond closely to those of *R. fistulosa* in their free stamens and simple style branches that alternate with the stamens, the taller *R. fistulosa* has a short, straight and thick hollow leaf. *Homeria serratostyla*, restricted to the Richtersveld, northern Namaqualand, is assigned to section *Homeria*, and seems most closely related to *H. patens*. Notable additional populations, including significant range extensions, are reported for *Moraea incurva*, *M. insolens*, *M. linderi*, *Homeria fenestrata*, *H. galpinii* and *H. schlechteri*. Original chromosome counts for each of the new species and several more of *Homeria* are also included here.

'n Nuwe spesie word vir elk van *Moraea* (120 spesies), *Homeria* (32 spesies) en *Roggeveldia* (2 spesies), Afrika-genusse van die Iridaceae–Irideae subtribus Homeriinae, beskryf. *Moraea vlokii* van die Swartberge in die Suid-Kaapse binneland is die naaste verwant aan die wydverspreide winterreingebiedspesie *M. gawleri*, waarvan dit verskil deur die kort stylvertakkings sonder 'n rif, kort halfgelyke periantblare en alleenstaande blaar. In *Roggeveldia*, tot dusver monotopies, is die nuwe *R. montana* 'n lae plant met 'n enkele lang, rolronde en slanke blaar, wat op plekke in die Kamiesberg (Sentraal-Namakwaland) en die Swartberge voorkom. Hoewel die blomme nou ooreenkom met dié van *R. fistulosa* wat betref hul los meeldrade en enkelvoudige styltakke wat afwisselend met die meeldrade voorkom, het die langer *R. fistulosa* 'n kort, reguit, dik, hol blaar. *Homeria serratostyla*, wat tot die Richtersveld in noordelike Namakwaland beperk is, is aan seksie *Homeria* toegewys en toon die meeste ooreenkomst met *H. patens*. Belangrike bykomende bevolkings, waaronder betekenisvolle uitbreidings van hul verspreidingsgebiede, word vir *Moraea incurva*, *M. insolens*, *M. linderi*, *Homeria fenestrata*, *H. galpinii* en *H. schlechteri* aangegee. Oorspronklike chromosoomtellings vir elk van die nuwe spesies en vir verskeie *Homeria*-spesies word ook hier ingesluit.

**Keywords:** taxonomy, new species, phytogeography, chromosome numbers.

### Introduction

*Homeria* and *Roggeveldia* are monophyletic genera of the southern African Iridaceae–Irideae belonging to subtribe Homeriinae, currently believed to be segregates of the large and diverse *Moraea*, central genus of the subtribe (Goldblatt 1986, 1987, 1991). In the fairly widespread *Homeria* (32 species), the new *H. serratostyla* is described for plants discovered in the Stinkfontein Mountains, in the Richtersveld, northern Namaqualand. The species is evidently a member of section *Homeria*, and possibly most closely related to the northern Cedarberg species, *H. patens* Goldbl.

The novel *Moraea vlokii*, discovered in 1985, is a narrow endemic of the dry north side of the Swartberg Mountains. Its distinctive vegetative morphology closely resembles that of the widespread winter rainfall region species, *M. gawleri* Spreng., of which it is probably a local segregate. *Moraea vlokii* differs from *M. gawleri* in its solitary leaf and flowers with short narrow style branches that lack well-developed crests.

Until now regarded as monotypic (Goldblatt 1979), *Roggeveldia*, perhaps most closely related to species such as *Moraea crispa* Thunb. (section *Polyanthes*) (Goldblatt 1991), has such a derived and simplified flower for Irideae that its generic recognition still seems useful, despite the

possibility that it may be no more than a trivial segregate of the *M. crispa* species complex. The known species, *R. fistulosa* Goldbl., has a single, fairly short and thick, nearly straight foliage leaf with a distinctive hollow form. Two populations corresponding closely to *R. fistulosa* in flower structure, that is with a stellate perianth, free stamens and simple style branches that extend between the stamens, have long, nearly filiform leaves with a solid core and short stems and are described here as *R. montana*.

I use this opportunity to report important additional populations for three rare and endangered Cape species, *Moraea incurva* G. Lewis, *M. insolens* Goldbl. and *M. linderi* Goldbl., and notable range extensions for *Homeria fenestrata* Goldbl., *H. galpinii* L. Bolus and *H. schlechteri* L. Bolus. Chromosome counts are reported here for the three new species and for several more of *Homeria*, made since the last revision of the genus (Goldblatt 1981) was published.

### *Moraea*

#### *Moraea vlokii* Goldbl. sp. nov. (Figure 1)

Plantae 14 – 33 cm altae, cormis ca. 12 mm diam., tunicis costatis, folio producto usitate uno lineare 1 – 2.5 mm lato, caule usitate 3 – 5 ramoso, spathis interioribus ca. 10 mm longis, floribus luteis,

tepals exterioribus ca. 14 mm longis, filamentis connatis ca. 6 mm longis, antheris ascendentibus ca. 2 mm longis, ovario incluso, ramibus styli ca. 2 mm longis.

TYPE:— South Africa, Cape: Swartberg Mountains, Gamkaspoort near the road at Grootberg, south facing slopes in rock outcrops, 18.10.1985, *Vlok 1149* (holotype, NBG; isotypes, K, MO, PRE).

Plants 14 – 33 cm high. *Corms* ca. 12 mm diam., *tunics* greyish, fibrous, the vertical fibres more or less rib-like. *Foliage leaves* usually solitary (rarely a second smaller leaf present), basal, linear, 1 – 2.5 mm wide, slightly shorter or longer than the stem (entirely sheathing bract-like leaves present on the stem). *Stem* erect, 2 – 6 branched, rarely simple, the branches diverging, erect terminally, subtended by short sheathing bract-like leaves, ca. 10 mm long. *Spathes* green or becoming dry and membranous above, inner ca. 10 mm long, obtuse, membranous apically, outer ca. 5 mm long. *Flowers* yellow with deeper yellow nectar guides at the bases of the tepal limbs, tepal claws ascending, forming a wide cup enclosing the lower half of the filaments, the outer tepal limbs speckled with black spots towards the base, unscented; *tepals* free, unequal; *outer tepals* ca. 14 mm long, claws ascending, the limbs reflexed 30°, broadly spatulate, widest in the upper third, the claw 2.5 mm long, with a basal nectary, the limbs ca. 12 mm long, ca. 9 mm wide; *inner tepals* similar but smaller, up to 10 mm long, 7 mm wide. *Filaments* united in a smooth cylindrical column ca. 6 mm long, free and slightly diverging for the top 1 mm; *anthers* nearly erect, oblong, ca. 2 mm long, yellow; pollen yellow. *Ovary* ovoid, ca. 2 mm long, included in the spathes; *style* diverging shortly above the apex of the filament column, the branches ca. 2 mm long, not quite reaching the anther apices, expanded above and 1.5 mm wide, the stigmatic lobe subtended by short adaxial appendages less than 1 mm high. *Capsules* broadly ovoid to globose, ca. 4 mm long; seeds angular. *Chromosome number*  $2n = 20$ .

Flowering September to early October; flowers open early in the morning and wilt at about 13:00.

*Moraea vlokii* is a local endemic of the interior central Swartberg in the southern Cape where it grows in rocky sites along ridges on south-facing, cooler and slightly wetter slopes. Its vegetative morphology is so like that of the widespread *M. gawleri* that there can be no doubt that the two species are immediately related. *Moraea vlokii* is distinctive in its single foliage leaf (rarely a second small one is produced) and in the flower with subequal tepals, united filaments and short style branches, lacking the paired apical appendages (Figure 1) that are plesiomorphic for *Moraea*, and present in *M. gawleri*. The latter typically has 2 – 3 foliage leaves (occasionally only one in depauperate individuals). In *M. gawleri* the filaments are united only in the lower half and the outer tepals are larger than the inner and marked with conspicuous nectar guides. The flowers of *M. vlokii* open early in the morning and fade at about 13:00 whereas those of *M. gawleri* open in the late morning and last until late afternoon.

#### Specimens

##### CAPE

—3321 (Ladismith): Swartberg, Gamkaspoort near the road

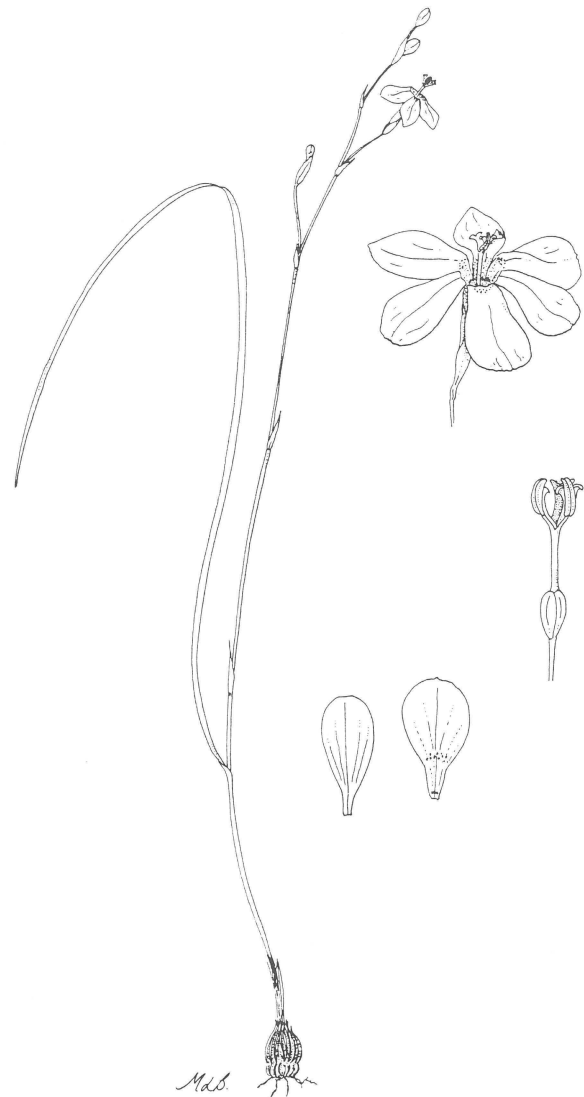


Figure 1 Morphology of *Moraea vlokii*: habit  $\times 0.5$ ; whole flower and separated inner and outer tepal full size; ovary stamens and style branches,  $\times 2$ . Drawn by Margo L. Branch.

at Grootberg, south-facing slopes in rock outcrops (–BD), 18.10.1985, *Vlok 1149* (K, MO, NBG, PRE); Swartberg, near top of pass into Gamkaskloof, dolomite rocks on south slope, 22.10.1986, *Goldblatt 7989* (MO, NBG, PRE).

#### Range extensions and important new records

##### *Moraea incurva* G. Lewis

A member of subgenus *Vieusseuxia*, *Moraea incurva* is a local endemic of the western Cape, restricted to lowlands between Wellington and Tulbagh. Thought to possibly be extinct (Goldblatt 1986), and recorded only twice, *M. incurva* was recollected in October 1990 on the farm Welbedacht, near Tulbagh. According to the collector, G. Hansford [3319 Worcester: (–AA), *Hansford 1*, NBG], plants were locally common on a rocky rise, growing in loamy soil among sandstone rocks. The plants conform closely to the type, having a single channeled leaf, pale blue flowers with cream nectar guides on the outer tepals, inner tepals with broad, incurving limbs and red pollen. Plants are being raised from wild-collected seed at Kirstenbosch Botanic Gardens and will be available for distribution once a

satisfactory number of individuals have reached maturity and produce seeds themselves.

*Moraea insolens* Goldbl.

Restricted to the southern lower slopes of the Caledon Zwartberg in the western Cape, *Moraea insolens*, notable for its large bright orange-red flowers, was thought to be reduced to a single small and seriously endangered population east of Caledon. In the past it is known to have had a wider range (Goldblatt 1986) and to have comprised both red- and cream-flowered forms. Cream-flowered plants were rediscovered in 1988 [3419 Caledon: west of the town, 27.8.1988 (-AB), Goldblatt 8897, MO], and this form is now being grown at Kirstenbosch Botanic Gardens. This second population is also threatened by farming and road-building activities and by urban expansion. Extension of Caledon to the west will result in the extermination of the second known, and only cream-flowered population of *M. insolens*. Fortunately, the red-flowered population is receiving some protection, but the site requires careful management to prevent spread of alien weeds and native woody plants that would in time exclude the geophytes.

*Moraea linderi* Goldbl.

When described, *Moraea linderi* was known from a single population on the Piketberg Mountains, in a valley now inundated by dam waters (P. Linder, pers. commun.). Efforts to locate more plants on the Piketberg failed, but a second population has since been discovered some distance away in the Cold Bokkeveld east of Citrusdal [3219 Wuppertal: farm Appelfontein, 28.10.1986 (-CA), Goldblatt 8031, MO, NBG]. The discovery of this second population is especially significant because *M. linderi* has taxonomic significance as a link between *Moraea* and *Rheome*, a genus resembling *Homeria* but known to be phylogenetically unrelated to it (Goldblatt 1991).

*Roggeveldia*

*Roggeveldia montana* Goldbl., sp. nov. (Figure 2)

Plantae 10 – 15 cm altae, cormis 10 – 14 mm diam., folio prodeuto unum teretis ca. 1 mm diam., caule ramoso, floribus violaceis vel albis luteis notatis, tepalis breviter unguiculatis 13 – 15 mm longis, filamentis liberis ca. 3.5 mm longis, antheris ca. 6 mm longis, ramis styli antheris alternatis filiformibus ca. 3.5 mm longis.

TYPE:— S. Africa, Cape, Namaqualand, Kamiesberg Mountains, sandy flats around vlei near Leliefontein, Goldblatt 6696 (holotype, NBG; isotypes, K, MO, PRE, S).

Plants 10 – 15 cm high. Corms globose, 10 – 14 mm diam., the tunics of coarse black fibres. Foliage leaf solitary, basal, longer than the stem, usually falcate to trailing, terete, ca. 1 mm diam. (other foliar organs entirely sheathing and cauline). Stem erect, bearing 3 – 5 sheathing bract-like leaves, these attenuate, usually dry by anthesis; usually branched at upper nodes. Spathes initially green, becoming dry above, especially the outer; inner spathes 20 – 25 mm long, the outer about half as long. Flowers blue-violet or white, the tepals with yellow nectar guides at bases; tepals shortly clawed, the claws erect and held against the filament

column, limbs spreading horizontally or slightly reflexed; tepals free, narrowly obovate, the outer larger, ca. 15 mm long, ca. 6 mm wide, the inner 13 – 14 mm long, ca. 4 mm wide; shortly unguiculate, claws ca. 1 mm long. Filaments free, ca. 3.5 mm long; anthers erect, ca. 6 mm long, curving inwards above after anthesis. Ovary narrowly elliptic, ca. 3.5 mm long; style branches diverging opposite the bases of the anthers, ca. 3.5 mm long, filiform, ascending, extending between the anthers. Capsules more or less globose, ca. 9 mm long; seeds angular. Chromosome number  $2n = 24$ .

Flowering October and November; flowers open at 16:00 and wilt ca. 19:30.

*Roggeveldia montana* is recorded from Leliefontein in Namaqualand and the Swartberg foothills near Willowmore in the southern Cape. It is uncertain whether the pattern represents a true disjunction or inadequate collecting. The latter would not be surprising for the plants have small, inconspicuous flowers that last for only a few hours, opening at 16:00 and wilting after about 19:30 in the Namaqualand population. The similarity between *R. montana* and *R. fistulosa* is strong in the branching pattern and in the flowers. However, the leaves of the taller *R. fistulosa* are thicker, hollow, normally erect and about as tall as the stem (Goldblatt 1979), whereas those of the more slender *R. montana* are nearly filiform, solid and although longer than the stem are often falcate, twisted and slightly coiled (Figure 2). In the Swartberg population the flowers are white. The Namaqualand population is tetraploid,  $2n = 24$ , in contrast to  $2n = 12$  in *R. fistulosa*.

Until the generic status of *Roggeveldia* can be critically reassessed, and the merit of recognizing this apparent segregate of the *Moraea crispa* complex of *Moraea* section *Polyanthes* (Goldblatt 1991) is thoroughly evaluated, *Roggeveldia* will remain a rather puzzling and unsatisfactory



Figure 2 Morphology of *Roggeveldia montana*: habit  $\times 0.5$ ; corm, whole flower and separated inner and outer tepal full size; ovary, stamens and style,  $\times 2$ . Drawn by Margo L. Branch.

genus. However, *R. montana* seems to demand specific recognition and must be described now so that it can be included in the Namaqualand Flora treatment, currently in preparation.

### Specimens

#### CAPE

—3018 (Kamiesberg): Kamiesberg Mts, sandy flats around vlei near Leliefontein, 4.11.1982 (–AC), *Goldblatt 6696* (K, MO, NBG, PRE, S).

—3323 (Willowmore): Hot Springs, foot of Swartberg Mountains, 7.11.1974 (–AC), *Oliver 5280* (MO, STE).

### *Homeria*

#### *Homeria serratostyla* Goldbl., sp. nov. (Figure 3)

Plantae 16 – 25 cm altae, cormis 12 – 18 mm diam., foliis usitate 3 linearibus canaliculatis 2 – 3 mm diam. inferiore grandiore, caule ramoso, floribus luteis, tepalis subunguiculatis 23 – 29 mm longis, filamentis connatis cylindricis ca. 6 mm longis, antheris ca. 6 mm longis, ramis styli ca. 2.5 mm longis marginibus serratis.

TYPE:— South Africa, Cape, Richtersveld, foothills of Cornelsberg, ca. 600 m, *Viviers sub Goldblatt 7377* (cultivated at the Missouri Botanical Garden) (holotype, NBG; isotypes, MO, PRE).

Plants 16 – 25 cm high. *Corms* globose, 12 – 18 mm diam., the tunics of medium to fine black fibres. *Leaves* usually three, the lower 2 with well-developed channeled blades, the upper 1 mostly sheathing; lowermost longest and inserted on the stem a short distance above the ground, blade longer than the stem but falcate to trailing, 2 – 3 mm wide. *Stem* erect, flexed above the sheathing part of each leaf, usually with at least 1 branch. *Spathes* green, initially 3 – 4 mm long and subequal or the inner slightly longer; the inner elongating after anthesis, eventually 4.5 – 5 cm long. *Flowers* pale yellow with slightly darker nectar guides at the base of the tepal limbs, tepal claws ascending and forming a cup enclosing the lower two-thirds of the filament column, limbs spreading horizontally or slightly reflexed; *tepals* free, lanceolate, 23 – 29 mm long, the outer three slightly larger than the inner, weakly unguiculate, claws ca. 5 mm long, limbs of the outer tepals ca. 12 mm wide, inner ca. 9 mm wide. *Filaments* united in a slender cylindrical column ca. 6 mm long; *anthers* ascending ca. 6 mm long, curving inwards above after anthesis. *Ovary* cylindrical, ca. 7 mm long; *style branches* diverging at the apex of the filament column, ascending, short, ca. 2.5 mm long, appressed to the anthers and reaching to about mid-anther level, flattened, ca. 1.5 mm wide, the margins serrate, dividing apically into short acute appendages ca. 0.5 mm long. *Capsules* barrel-shaped, ca. 9 mm long; *seeds* angular. *Chromosome number*  $2n = 12$ .

Flowering probably in July; flowers open at 15:30 and fade at 19:30.

Known only from a single locality, *Homeria serratostyla* appears to be restricted to the Stinkfontein Mountains in the north-western Richtersveld where it occurs on the foothills of Cornelsberg at elevations of ca. 600 m. In this arid country, it grows in rocky places in sandy granite-derived soils. Flowering time in the wild may be July; in cultivation individual flowers open at 15:30 and fade at nightfall, ca.

19:30. The only wild collection consists of fruiting plants with ripe seeds gathered in mid August. The flowers (Figure 3), with a fairly well-developed cup formed by the tepal claws, ascending anthers and small, but nevertheless clearly differentiated, flat style branches with paired apical appendages, suggest that *H. serratostyla* is best placed in section *Homeria*. The insertion of the lowermost leaf some distance above the ground and inner inflorescence spathes that elongate during capsule maturation so that the capsules remain partly enclosed, also accord best with section *Homeria*. Particularly distinctive of the species are the serrated margins of the style branches and apical appendages. *Homeria serratostyla* appears to be most closely related to *H. patens* Goldbl. and possibly *H. flavescens* Goldbl., both of which occur some distance to the south in the sandstone ranges of the western Cape. If correctly placed in section *Homeria*, *H. serratostyla* is the only Namaqualand member of the section.



Figure 3 Morphology of *Homeria serratostyla*: habit  $\times 0.5$ ; corm and whole flower full size; ovary, stamens and style branches,  $\times 1.5$ ; top view of style branches and abaxial side of single style branch  $\times 4$ . Drawn by Margo L. Branch.

The chromosome number,  $2n = 12$ , and karyotype of large acrocentric chromosomes conform to the common pattern in *Homeria* (Goldblatt 1980a, 1980b, 1981). Plants have proven easy to cultivate and in the greenhouse have been shown to be self-incompatible like most species in the genus (Goldblatt 1981).

### Specimens

#### CAPE

—2817 (Vioolsdrif): Richtersveld, foothills of Cornelsberg, ca. 600 m (–CB), (cult. Missouri Botanical Garden), *Viviers sub Goldblatt 7377* (MO, NBG, PRE). Figure 3.

### Range extensions

#### *Homeria fenestrata* Goldbl.

When described, *H. fenestrata* was known from only one collection in the northern Doorn River basin some 60 km south of Calvinia. Additional specimens are now known from 'dry shale hills, Doorn River', 11.9.1928, *Marloth 12929* and *12920* (PRE). Although the locality is imprecise, it is probably near to the type area. A recent collection from the farm Bizansgat in the western foothills of the Koedoes Mountains, represents a significant range extension [3220 Sutherland: (–CC), 21.9.1981, *Goldblatt 6302* (MO, NBG)]. Plants from this locality have flowers with broader tepal claws and are thus not windowed between the tepal bases as are the plants from further north. In other respects the plants accord with the type, notably in having 2–4 narrow leaves, a strongly flexuose stem and a slender filament column and short anthers. Among the predominantly salmon-flowered plants at Bizansgat were a few with yellow flowers, not before known in *H. fenestrata* but not surprising for *Homeria*, nearly all species of which have both salmon (–pink) and yellow flowers, usually in separate populations but sometimes within populations.

#### *Homeria galpinii* L. Bolus

Fairly widespread in the south-western Cape, and largely restricted to montane habitats, *Homeria galpinii* extends from near Bredasdorp in the south to Bains Kloof in the north, with an outlying population on the Piketberg some distance to the west (Goldblatt 1981: p.471). It normally flowers in the winter months, occasionally as early as March and rarely as late as November, and flowering is always in fairly rapid response to fire a few months earlier. After a late summer fire in the southern part of the Cape of Good Hope Nature Reserve in early 1991, *H. galpinii* bloomed in the early spring of the same year, and has been recorded for the first time on the Cape Peninsula [3418 Simonstown: roadside near Buffels Bay (–AD), 21.9.1991, *Goldblatt 9271* (MO, NBG)]. The record is consistent with its known range for it is fairly common across False Bay in the Kogelberg, Steenbras and Hangklip Mountains. I also note the new record, the first from east of Bredasdorp [3420 Bredasdorp: between Cupidoskraal and Elandspad (–BC), 11.4.1979, *Hugo 1786* (STE)]. This extends the range of *H. galpinii* to include the isolated Potberg Range near Cape Infanta.

*Homeria galpinii* is easily confused with the closely related *H. collina* (Thunb.) Salisb., but the latter, a

polyploid species,  $2n = 24$ , blooms somewhat later in the season, has a longer foliage leaf, elongate capsules, and flowers with a wider throat and darker nectar guides than *H. galpinii*. A chromosome count from the Cape Point population confirms the diploidy,  $2n = 12$ , in *H. galpinii*.

#### *Homeria schlechteri* L. Bolus

This largely Namaqualand species (Goldblatt 1981), is known to extend from about Steinkopf north of Springbok southward to Garies and Bitterfontein and inland to Kliprand (an isolated record from Klawer in the north-western Cape needs confirmation). A new collection from the Loeriesfontein grid in the western Karoo is significant. It establishes the occurrence of *H. schlechteri* well outside Namaqualand [3019 Loeriesfontein: farm Haasrivier between Loeriesfontein and Taaiboshoek, granite boulders (–CA), *Snijman 639* (NBG)].

### Notes on chromosome cytology of *Homeria*

In addition to the count for *Homeria serratostyla*, original chromosome counts are reported here for six species of *Homeria* (Table 1). The count of  $2n = 36$  in *H. flaccida* confirms the prevailing hexaploid condition in this species. In *H. cookii*,  $2n = 12$  is the second count at the diploid level and provides further evidence that diploids of *H. cookii* are restricted to the Roggeveld in the western Karoo: elsewhere this widespread species is tetraploid or hexaploid (Goldblatt 1981). The count for *H. serratostyla* is the first for the species while  $2n = 12$  in *H. minor*, *H. galpinii* and *H. schlechteri* and  $2n = 9$  in *H. flavescens* are consistent with previous counts for these species (Goldblatt 1980a, 1981).

**Table 1** Original chromosome numbers for the new species and supplementary counts in *Homeria*, in which previous counts were reported by Goldblatt (1980a, 1981). Vouchers are housed at MO and all localities are in the Cape Province, South Africa

Species	Diploid number	Collection data
<i>Moraea</i>		
<i>M. vlokii</i> Goldbl.	20	Swartberg, near top of pass into Gamkaskloof, <i>Goldblatt 7989</i>
<i>Roggeveldia</i>		
<i>R. montana</i> Goldbl.	24	Kamiesberg, Namaqualand, near Leliefontein, <i>Goldblatt 6696</i>
<i>Homeria</i>		
<i>H. cookii</i> L. Bolus	12	Roggeveld, Blomfontein-Middelpoos road, <i>Goldblatt 4273</i>
<i>H. flaccida</i> Sweet	36	Kuilders R., Goede Hoop, SW of Piketberg, <i>Goldblatt 6710</i>
<i>H. flavescens</i> Goldbl.	9	Krom River farm, Cedarberg, <i>Goldblatt 5669</i>
<i>H. galpinii</i> L. Bolus	12	Cape Point Nature Reserve, <i>Goldblatt 9271</i>
<i>H. minor</i> Ecklon	12	Piketberg, top of Versveld Pass, <i>Goldblatt 5773</i>
<i>H. schlechteri</i> L. Bolus	12	Namaqualand, Killians Pass, <i>Goldblatt 5764</i>
<i>H. serratostyla</i> Goldbl.	12	Cornelsberg foothills, Richtersveld, <i>Viviers s.n.</i>

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